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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/404,292	09/23/1999	KENNETH LEE LEVY	LEVY/R	8259

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DIGIMARC CORPORATION
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EXAMINER
KIM, CHONG R

ART UNIT	PAPER NUMBER
2623	12

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/404,292	Applicant(s) LEVY, KENNETH LEE	
	Examiner Charles Kim	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25,26,29,30 and 32-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25,26,29,30 and 32-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). *12* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Interview Summary	Application No. 09/404,292	Applicant(s) LEVY, KENNETH LEE	
	Examiner Charles Kim	Art Unit 2623	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Charles Kim*. (3)_____.

(2) *Steven Stewart (Registration No. 45,133)*. (4)_____.

Date of Interview: *13 May 2003*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *25 and 26*.

Identification of prior art discussed: *Hartung, and Nakano*.

Agreement with respect to the claims f)☐ was reached. g)☒ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Applicant described the invention and suggested that the Hartung reference fails to teach the limitations of retrieving the auxiliary information, compressing the data, and embedding the information in the compressed form. The Examiner will take into consideration the applicant's points and will further review the case with his Primary Examiner Jon Chang. No agreement has been reached*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

_____
Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

DETAILED ACTION

Response to Amendment and Arguments

1. Applicant's amendment filed on March 4, 2003 has been entered and made of record.

2. In view of applicant's arguments, the 112 first paragraph rejection for claim 40 is withdrawn.

3. In view of applicant's amendment, the 112 second paragraph rejections are withdrawn.

4. Applicant's arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicants argue (page 5) that the 112 first paragraph rejection for claim 25 is improper because "the term 'combined data' is disclosed and thoroughly explored throughout the specification...". The Examiner responds by pointing out that claim 25 was rejected under 112 first paragraph in the previous office action (page 2) because the specification failed to describe the step of compressing the "combined data". The applicants cited page 6, lines 10-12 and page 8, lines 7-9 of the specification as support for compressing the "combined data". Page 6, lines 10-12 states "Some data hiding and retrieving techniques retrieve the auxiliary data by comparing the combined data with the original data". Page 8, lines 7-9 states "The process involves embedding and retrieving auxiliary information into original data to produce combined data". The Examiner notes that neither citations support the step of compressing the "combined data".

Applicants further argue (page 7) that their claimed invention (claim 25) differs from the prior art because "Hartung does not contemplate embedding auxiliary information in data so that

the auxiliary information is not lost with compression of the data...". The Examiner disagrees. Hartung explains that the watermark embedding method should be robust to attacks attempting to remove the watermark due to compression (Hartung, page 6, section 5).

Applicants further argue (page 7) that the previous office action "disregards the inter-relationship of the data in claim 25, e.g., retrieving auxiliary information from the data while in combined form, then compressing the combined data (e.g., non-compressed plus embedded information), and then embedding the auxiliary information in the compressed combined data". The Examiner notes that the applicant's specification fails to support the steps stated above. The retrieving step, as supported on page 9, lines 12-19 of the applicant's specification, is the inverse of the embedding process. In other words, the retrieving step will extract the embedded data so that the remaining data will not include the auxiliary information. Therefore, the applicant's specification supports compressing only the data (without the auxiliary information), and embedding the auxiliary information in the compressed data (without the auxiliary information). In this case, Hartung teaches the steps of retrieving the auxiliary information from the combined data (page 3, third line from the bottom. It is noted that recovering the hidden information is interpreted as being analogous to retrieving the auxiliary information. Hartung also discloses that the auxiliary information has been inserted into the non-compressed data in an initial step), compressing the data (page 4, Hartung discloses compressing video data into MPEG format), and embedding the auxiliary information in compressed data (page 4. Hartung teaches embedding watermarking data into compressed MPEG data). The Examiner points out that the "inter-relationship" of the data is suggested by Hartung on page 3, where he explains that the watermarking algorithm should work interoperable for compressed and uncompressed data.

Applicants further argue (page 8) that "analyzing claim 33 as if it recited the exact same features as claim 25 is considered improper, since it ignores the actual combination of features in claim 33". The Examiner responds by pointing out that the previous office action (page 7) stated "see the rejection of at least claim 25 above". It appeared that claim 33 was a broader recitation of claim 25 (dependent on claim 24) except for the limitation "wherein the auxiliary information is encoded in the data signal" on lines 2-3 of claim 33 which was not included in claim 25. However, claim 25 recited the limitation of "re-embedding the auxiliary information" (line 5), thereby implying that the auxiliary information was encoded in the data signal. Therefore, the rejection applied to claim 25 appears to have been correctly applicable to claim 33.

Claim Objections

5. Applicant is advised that should claim 30 be found allowable, claim 32 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 25, 29 and 36 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to claim 25, the limitations "compressing the combined data" in line 8, and "embedding the auxiliary information in the compressed combined data, whereby the compressed combined data comprises the auxiliary information embedded therein" in lines 9-11 are non-enabling because there is no sufficient support in the specification. The retrieving step (step a), as supported on page 9, lines 12-19 of the applicant's specification, is the inverse of the embedding process. In other words, the retrieving step will extract the embedded data so that the remaining data will not include the auxiliary information. Therefore, it appears that the applicant's specification supports compressing only the data (without the auxiliary information), and embedding the auxiliary information in the compressed data, wherein the compressed data does not include the auxiliary information. For examination purposes, the limitations will be interpreted as "compressing the data" and "embedding the auxiliary information in the compressed data", wherein the data does not include the auxiliary information.

Referring to claim 36, the phrase "the data signal includes the auxiliary information embedded therein during said compressing step" is not supported by the specification. As discussed above, the data does not include the auxiliary information during the compression step.

Claims not mentioned specifically depend from non-enabling antecedent claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 25, 29, 26, 30, 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 25, the phrase "the data initially comprising...wherein the combined data comprises..." in lines 3-5 is unclear. More specifically, it is unclear what the difference is between the "data" and the "combined data". For examination purposes, the "combined data" will be interpreted to mean the data including the auxiliary information embedded therein, and the "data" will be interpreted as the data not including the auxiliary information.

Referring to claim 25, the phrase "wherein combined data comprises the non-compressed form" is unclear. It appears that the applicant intended the phrase to read "wherein combined data comprises the data in non-compressed form".

Referring to claim 26, the phrase "retrieving the auxiliary information from the compressed form" in line 6 is unclear. It appears that the applicant intended the phrase to read "retrieving the auxiliary information from the compressed form of the data". Examiner notes that there are several other similar unclear limitations on lines 7-11.

Claims not mentioned specifically depend from indefinite antecedent claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 25, 29, 33-36, 40-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the article entitled "Digital Watermarking of Raw and Compressed Video" by Hartung, and Nakano (U.S. Patent No. 6,298,142).

Referring to claim 25 as best understood, Hartung teaches a method of embedding auxiliary information in data, wherein the auxiliary information is not lost with compression of the data (page 6, part e under "ATTACKS AGAINST WATERMARKS, AND REMEDIES), and wherein the combined data comprises data in non-compressed form including the auxiliary information, the method comprising:

a. retrieving the auxiliary information from the combined data (page 3, third line from the bottom. It is noted that recovering the hidden information is interpreted as being analogous to retrieving the auxiliary information. Hartung also discloses that the auxiliary information has been inserted into the non-compressed data in an initial step),

b. compressing the data (page 4, Hartung discloses compressing video data into MPEG format), and

c. embedding the auxiliary information in compressed data, whereby the compressed combined data comprises the auxiliary information embedded therein (page 4. Hartung teaches embedding watermarking data into compressed MPEG data).

Hartung teaches the methods for embedding watermarks in non-compressed data (step a) and embedding watermarks in compressed data (steps b and c). However, Hartung does not

explictly combine steps a, b, and c into a single method. Hartung explains that the watermarking algorithm works interoperable and is fully compatible for both compressed and uncompressed data (page 8). Therefore, it would have been obvious to combine the teachings of Hartung from the watermarking method of the non-compressed data (step a) with the watermarking method of the compressed data (steps b and c), in order to provide a flexible watermarking algorithm that can embed auxiliary information in both compressed and non-compressed data, and provide robustness against attacks attempting to remove the watermark.

It is further noted that the embedding of the watermark in either compressed or non-compressed form would have been:

i. dependent upon the environment the data was utilized (for example, DVD's require compression)

ii. chosen by the user based on his/her specific requirements (for example, if the user needed to compress the data, or not compress the data).

Examiner notes that robustness, which is defined as the resistance against the watermark data being lost, is considered an inherent feature of a watermark (because a watermark that can be removed will defeat the purpose of embedding the watermark). Nakano teaches that compressing data that contains auxiliary information results in the lost of auxiliary information as a result of the compression (Nakano, col. 2, lines 42-49). Therefore, it would have been obvious to retrieve the watermark from the non-compressed data, compress the data, and embed the watermark in the compressed data, in order make sure that the compressed data contains the same auxiliary information as the original un-compressed data. It would have been obvious and desirable to embed both the un-compressed and compressed data to ensure that the data always

contains the auxiliary information for complete protection against unauthorized use (Hartung, page 1 under the Introduction).

Referring to claim 29, Hartung further discloses that the compression comprises encoding (page 4. As described above, Hartung discloses compressed video data in MPEG format. It is noted that MPEG data is a form of encoded video data).

Referring to claim 33, see the rejection of at least claim 25 above.

Referring to claim 34 as best understood, Hartung further discloses that the auxiliary information is steganographically retrieved from the non-compressed data signal (page 3. It is noted that the recovery of hidden information as disclosed by Hartung, meets the limitation of steganographically retrieving the information, as disclosed in the claim, since the applicant states that "in steganography, a message is hidden within another object or media" on page 2, line 29-30 of the specification).

Referring to claim 35 as best understood, Hartung further discloses that the auxiliary information is embedded in the compressed data signal in the form of a steganographic watermark (page 4).

Referring to claim 36, Hartung fails to explicitly state that the data signal includes the auxiliary information embedded during the compressing step. However, compressing data signals that includes auxiliary information was exceedingly well known and common in the art. For example, Nakano discloses that the data signal includes auxiliary information during the compressing step (col. 3, lines 47-53. It is noted that the watermark is embedded in the frequency domain after the transformation and before the quantizing and encoding steps. Therefore, the watermark is embedded during the compression step).

Therefore, it would have been obvious have the data signal of Hartung, to include the auxiliary information during compression, as taught by Nakano, in order to protect the data during compression and eliminate the possibility of unauthorized use of the data during the compression step.

Referring to claim 40, see the rejection of at least claim 25 above. Hartung further discloses performing a transformation on the original data signal (page 4. It is noted that the compression of video data to a MPEG format, as disclosed by Hartung, inherently includes a transformation of the original data, for example, DCT is defined as a transformation).

Referring to claim 41, see the rejection of at least claim 34 above.

Referring to claims 42 and 43, see the rejection of at least claim 35 above.

Referring to claim 44, Hartung fails to explicitly state that the transformation causes the auxiliary information not to be detectable from the transformed data signal. However, since the auxiliary information disclosed by Hartung is a digital watermark that should be invisible (page 3, line 1), it would have been obvious for the auxiliary information not to be detectable as a result of the transformation.

Referring to claim 45, see the rejection of at least claim 41 above.

Referring to claims 46 and 47, see the rejection of at least claim 42 above.

Referring to claim 48, Hartung further discloses that the embedding of the retrieved auxiliary information in the transformed data signal uses a robust embedding method for the transformed data signal (page 6, section 5 titled "Attacks against Watermarks, and Remedies") that enables detection of the auxiliary information by a detector (page 3, lines 14-15).

Referring to claim 49, see the rejection of at least claim 42 above.

Referring to claim 50, see the rejection of at least claim 41 above.

9. Claim 26, 30, 32, 37-39 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooklev, U.S. Patent No. 6,359,998 ("Cooklev").

Referring to claim 26, Cooklev teaches a method of embedding auxiliary information in data, wherein the auxiliary information is not lost with decompression of the data from a compressed form to a non-compressed form (col. 11, lines 3-6), and wherein the compressed form of the data includes the auxiliary information (col. 12, lines 16-22), the method comprising:

a. retrieving the auxiliary information from the compressed form of the data (col. 12, lines 57-59 and col. 13, lines 39-42. Note that the auxiliary information is retrieved from the compressed data by decompressing the data and extracting the auxiliary information)

b. decompressing the compressed form to yield the non-compressed form of the data (step 70 in figure 3)

c. steganographically embedding the auxiliary information in non-compressed data, whereby the non-compressed data comprises the auxiliary information embedded therein (col. 11, lines 6-13 and step 52 in figure 3. Note that the "non-compressed form of the data" is interpreted as data that is not compressed).

The Examiner notes that steps a) and b) were exceedingly well known in the art, as shown by Cooklev. Furthermore, the step of embedding auxiliary information in non-compressed data (step c) was also exceedingly well known. However, Cooklev does not explicitly teach that the auxiliary information is embedded in the non-compressed data obtained from the decompression step (b).

Cooklev requires that the watermark remain in the data during lossy image processing operations (col. 11, lines 3-6). Therefore, if decompressing the compressed data results in the watermark information being lost (lossy processing), it would have been obvious to embed the auxiliary information in the decompressed data in order to make sure that the decompressed data contains the same auxiliary information as the compressed data (col. 12, lines 27-34).

As noted above, the decision of embedding the watermark in either compressed or non-compressed data would have been decided by the user, and the environment in which the data was utilized. Therefore, if the environment in which the data was utilized required compressed data to be (lossy) decompressed, it would have been obvious for the user embed the watermark in the resulting non-compressed form of the data. The user would have been motivated to embed the watermark in the non-compressed form of the data in order to ensure that the data always contains the auxiliary information for complete protection against unauthorized use.

Referring to claim 30, Cooklev further teaches that the decompression comprises decoding (col. 12, lines 57-65).

Referring to claim 32, see the rejection of at least claim 30 above.

Referring to claim 37, see the rejection of at least claim 26 above. Cooklev further discloses that the decompressed data signal comprises digital data (col. 10, line 64).

Referring to claim 38, Cooklev further discloses that the retrieved auxiliary information is steganographically encoded in the de-compressed data signal (col. 3, lines 26-31).

Referring to claim 39, see the rejection of at least claim 38 above.

Referring to claim 51, see the rejection of at least claim 26 above. Cooklev further teaches that the non-compressed data including the auxiliary information comprises digital data (col. 10, line 64).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 4528588, US 5687191, US 5719937, US 5727092, US 5778102, US 5901178, US 5963909, US 6272176, US 6366685, the article entitled "Copyright Protection for Multimedia

Data" by Koch et al., the article entitled "Cryptology for Digital TV Broadcasting" by Benoit et al.

The above cited references were brought to the Examiner's attention by Steven Stewart (Registration No. 45,133), on a telephone conversation on May 13, 2003.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 703-306-4038. The examiner can normally be reached on Monday thru Thursday 8:30am to 6:00pm and alternating Fridays 9:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

ck
May 19, 2003

Jon Chang
Primary Examiner